ASEA JOURNAL

VOLUME 55
1982

PUBLISHED BY
ASEA
VÄSTERÅS, SWEDEN

LIST OF AUTHORS

Page

Åkerblom, B. & Ölmefors, G.
MAGNADISC® system for treating steel cold rolling emulsions 31

Andersson, R., Holmgren, L., Backtorp, B. & Sundholm, C.-Å.
Modern control engineering applied to Wasabröd's new crispbread production plant 151

Backström, G.
The ASEA on-load tap-changer–serving transformers around the world 107

Backtorp, B. (see Andersson, R., Holmgren, L., Backtorp, B. & Sundholm, C.-Å.)

Björkman, G. (see Kjerrström, S. & Björkman, G.)

Brantmark, H., Lindqvist, Å. & Norefors, U.-G.
Man/machine communication in ASEA's new robot controller 145

Borg, E.
Itaipu–the world's largest HVDC transmission 157

Dangana, L.A.C. & Forserud, A.
The background and design of a modern substation and standby power plant for tropical conditions 124

Ericsson, A. & Jonas, I.
ASEA's VABS service reduces downtime and repair costs 95

Forserud, A. (see Dangana, L.A.C. & Forserud, A.)

Holmberg, A.
Units 1 and 2 of Forsmark Nuclear Power Station in commercial operation 85

Holmer, A.
New generation of robot controllers 139

Holmgren, L. (see Andersson, R., Holmgren, L., Backtorp, B. & Sundholm, C.-Å.)

Holmström, E.
The new 500 MVA generator for Harsprånget Hydro Power Station, Sweden 12

Isberg, P.
Reactor fuel and core development at ASEA-ATOM 67

Jonas, I. (see Ericsson, A. & Jonas, I.)

Page

Källberg, O. & Törnerud, G.
A somewhat unusual chopper project 3

Karlsson, B. & Kindblom, B.
Computerised control and monitoring of a Swedish water treatment plant 79

Kindblom, B. (see Karlsson, B. & Kindblom, B.)

Kjerrström, S. & Björkman, G.
Energy control centre functions for power systems 117

Larsson, J.
New generation of ladle heaters for improved ladle economy 89

Lindqvist, Å. (see Brantmark, H., Lindqvist, Å. & Norefors, U.-G.)

Nilsson, A. & Sundberg, Y.
Crucible induction furnace for 63 tonnes, 18 MW at the Fagersta Steel Mills 15

Nilsson, B.
Methods for the seismic qualification of ASEA equipment 51

Norefors, U.-G. (see Brantmark, H., Lindqvist, Å. & Norefors, U.-G.)

Norlin, L.
Process control system DS 8RP 59

Ölmefors, G. (see Åkerblom, B. & Ölmefors, G.)

Pucher, W.
New generation of current-limiting d.c. circuit-breakers 27

Ståhle, B.
Electrical equipment for direct-reduction plant in the Soviet Union 65

Sundberg, Y.
Some examples of the exchange of technical know-how between ASEA and the iron and steel industry 35

Sundberg, Y. (see Nilsson, A. & Sundberg, Y.)

Sundholm, C.-Å. (see Andersson, R., Holmgren, L., Backtorp, B. & Sundholm, C.-Å.)

Törnerud, G. (see Källberg, O. & Törnerud, G.)

LIST OF CONTENTS

Page

Research and development
Methods for the seismic qualification of ASEA equipment 51
Reactor fuel and core development at ASEA-ATOM 67
New fibre optical channel* 104
International solar power project in southern Spain with Swedish participation* 130
Induction heater for Swedish steel research centre* 133

Manufacturing
Tool magazine for NC machine tools* 22
QUINTUS® presses for the U.S. aerospace industry* 101

Power and heat generation
The new 500 MVA generator for Harsprånget Hydro Power Station, Sweden 12
ASEA generator for Stornorrfors Hydro Power Station* 43
No-break supply to N.S.W. Department of Motor Transport* 45
Large heat pump for Västerås, Sweden* 46
STAL-LAVAL turbines for U.S. pulp and paper industry* 46
Gas turbine power plant for Union Cement Company, United Arab Emirates* 48
Reactor fuel and core development at ASEA-ATOM 67
ASEA assists in rehabilitation of Canadian hydro power station* 71
ASEA awarded major contract for Sri Lanka hydro power project* 72
Gas-turbine power stations for Saudi Arabia* 74
The world's largest heat pump plant* 74
Units 1 and 2 of Forsmark Nuclear Power Station in commercial operation 85
ASEA generators for Mexican hydro power project* 103
The background and design of a modern substation and standby power plant for tropical conditions 124
International solar power project in southern Spain with Swedish participation* 131
No-break power supply system for Ericsson's computer centre* 133
Computer-based control system for Colombian hydro power stations* 166

Power transmission and distribution
Gas-insulated substations for Colombia* 20
Series capacitor solves pumping problem in Sydney* 20
ASEA receives major substation and static VAR system order from Libya* 22
Thyristor-switched shunt compensator for the Swedish State Power Board* 22
ASEA substations for Qatar* 47
Two thyristor-controlled shunt compensators for Australia* 47
Synchronous condenser for the Gotland HVDC transmission* 71
Kafak suspended floor system for switchgear rooms, control rooms and computer terminals* 100
132 kV transmission system in the Kingdom of Saudi Arabia* 100
High-voltage direct-current power transmission for the Intermountain Project in the United States* 101
Upgrading of the Pacific Intertie* 103
Energy control centre functions for power systems 117
The background and design of a modern substation and standby power plant for tropical conditions 124
Two static compensators for 800 kV transmission system in Venezuela* 132
Four 735 kV static compensators for Canada* 132
Itaipu–the world's largest HVDC transmission

Transformers and shunt reactors
Transformer for the Itaipu 600 kV HVDC transmission* 44
The ASEA on-load tap-changer–serving transformers around the world 107
First 765 kV current transformer built in North America* 134

Switchgear and relays
New generation of current-limiting d.c. circuit-breakers 27
Improved oil-minimum circuit-breaker for 72.5 kV* 43
Major U.S. contract for protective relay systems* 44
New outdoor circuit-breakers for the voltage range 123–550 kV* 129
Zinc oxide surge arresters for 380 kV* 168

Page

Metallurgical industries
Crucible induction furnace for 63 tonnes, 18 MW at the Fagersta Steel Mills 15
ASEA induction heating plant for Canadian steel mill* 20
ASEA induction heating plant for Swedish steel mill* 20
ASEA-SKF ladle furnace for the Soviet Union* 22
Some examples of the exchange of technical know-how between ASEA and the iron and steel industry 35
Electrical equipment for direct-reduction plant in the Soviet Union 65
New generation of ladle heaters for improved ladle economy 89
ASEA-SKF ladle furnace for Bulgaria* 100
QUINTUS® presses for the U.S. aerospace industry* 101
Svenskt Stål to install ASEA induction heater for slabs and blooms* 133
Induction heater for Swedish steel research centre* 133

Process industries
MAGNADISC® system for treating steel cold rolling emulsions 31
STAL-LAVAL turbines for U.S. pulp and paper industry* 46
Gas turbine plant for Union Cement Company, United Arab Emirates* 48
ASEA receives orders for refiner motors* 71
Computerised control and monitoring of a Swedish water treatment plant 79
Modern control engineering applied to Wasabröd's new crispbread production plant 151

Electronics and computers
No-break supply to N.S.W. Department of Motor Transport* 45
Process control system DS 8RP 59
New type of frequency convertor for traction supply systems* 73
Mine hoist data logger* 76
Computerised control and monitoring of a Swedish water treatment plant 79
New fibre optical channel* 104
Energy control centre functions for power systems 117
No-break power supply system for Ericsson's computer centre* 133
Courses on frequency convertors for induction motor drives* 136
Modern control engineering applied to Wasabröd's new crispbread production plant 151
Computer-based control system for Colombian hydro power stations* 166
ASEA thyristor convertors for the energy supply of plasma generators* 166
Frequency convertor for the speed control of 6.1 MW gas compressor in Canada* 167

Industrial robots and machine tools
Tool magazine for NC machine tools* 22
West German automotive industry purchases 105 ASEA robots* 24
SAAB-SCANIA orders ASEA industrial robots* 129
New generation of robot controllers 139
Man/machine communication in ASEA's new robot controller 145

Rotating machines
The new 500 MVA generator for Harsprånget Hydro Power Station, Sweden 12
ASEA generator for Stornorrfors Hydro Power Station* 43
STAL-LAVAL turbines for U.S. pulp and paper industry* 46
New geared motor type UAB* 48
Gas turbine plant for Union Cement Company, United Arab Emirates* 48
Synchronous condenser for the Gotland HVDC transmission* 71
ASEA receives orders for refiner motors* 71
ASEA assists in rehabilitation of Canadian hydro power station* 71
ASEA launches new generation of d.c. motors for outputs up to 150 kW* 72
Gas turbine power stations for Saudi Arabia* 74
New generation of brake motors* 75
ASEA's VABS service reduces downtime and repair costs 95
ASEA generators for Mexican hydro power project* 103
Further series of brake motors* 131
Silent, energy-saving ASEA motors* 162
New three-phase motors* 164

*News in brief

Transportation and materials handling
A somewhat unusual chopper project 3
Swedish State Railways celebrate 125th anniversary* 23
Hägglunds deck cranes for Soviet and Norwegian ships* 44
Commuter trains for the 1980s* 73
Finnish shipping company orders Hägglunds 4-wire cranes for coal handling* 73
New type of frequency convertor for traction supply systems* 73
Mine hoist data logger* 76
New generation of trams ordered from ASEA* 102
Concrete handling speeded up by new method* 134
ASEA wagon haulage system used for maintenance work on French high-speed trains* 135
Versatile all-terrain carrier* 163
Airfield lighting system for Changi International Airport* 165
Hägglunds deck cranes for U.S. container ships* 167

Service
ASEA assists in rehabilitation of Canadian hydro power station* 71
ASEA's VABS service reduces downtime and repair costs 95

Miscellaneous
Reprints from ASEA Journal* 20
Reprints from ASEA Journal* 76
Courses on frequency convertors for induction motor drives* 136
Reprints from ASEA Journal* 168

*News in brief

VÄSTERÅS, SWEDEN 1982
VÄSTRA ÅROS